YAMAHA

ACOUSTIC ECHO CANCELLER CARD

MY4-AEC

Owner's Manual

Bedienungsanleitung

Mode d'emploi

Manual de instrucciones

Manuale di istruzioni

Руководство пользователя

使用说明书

取扱説明書

ENGLISH
DEUTSCH
FRANÇAIS
ESPAÑOL
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РУССКИЙ
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FCC INFORMATION (U.S.A.)

1. **IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!**
   This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. **IMPORTANT:** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. **NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

   Relocate either this product or the device that is being affected by the interference.

   Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

   In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

   If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

   The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA. (class B)

CANADA

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

• This applies only to products distributed by Yamaha Canada Music Ltd. (class B)
• Ceci ne s'applique qu'aux produits distribués par Yamaha Canada Musique Ltée.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

**** Please keep this manual in a safe place for future reference.***

⚠ WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

- Do not install the card in any Yamaha products not specified by Yamaha for use with the card to avoid possible electrical shock, fire, or equipment damage.
- Do not attempt to disassemble or modify the card. Do not apply excessive force to card connectors or other card components. Mishandling of the card may lead to shock, fire hazard, or equipment failure.
- Be sure to disconnect the power cable of the host device before installing the card and connecting/disconnecting the cables (in order to eliminate shock hazard, undesired noise, and avoid equipment damage).
- Turn off all peripheral devices connected to the host device before installation, and unplug all related cables (in order to eliminate shock hazard, undesired noise, and avoid equipment damage).

⚠ CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property.

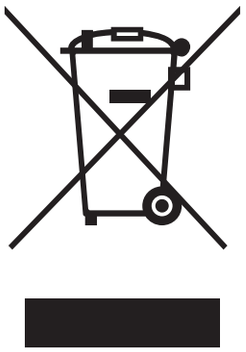
These precautions include, but are not limited to, the following:

- Be sure to properly ground the host device to prevent electrical shock and/or malfunction.
- Do not touch the metallic leads (pins) of the circuit board when handling the card. The pins are sharp and may cause hand cuts.
- Wear a pair of heavy gloves during installation to avoid scratching or cutting your hands on sharp edges.
- Avoid touching exposed connectors and metal parts to minimize the possibility of bad connections.
- Drain all static electricity from your clothing and body before handling the card. Static electricity can damage the card. Touch an exposed metal part of the host device or other grounded object beforehand.
- Do not drop the card or subject it to physical shock as this can result in breakage and/or malfunction.
- Do not drop screws or other small parts inside the card. If power is applied while screws or similar metal objects are loose inside the unit the card may malfunction or be damaged. If you cannot retrieve dropped objects yourself, refer the problem to qualified Yamaha service personnel.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the device, or data that is lost or destroyed.

- The illustrations as shown in this manual are for instructional purposes only, and may be different from the ones on your equipment.
- The company names and product names in this manual are the trademarks or registered trademarks of their respective companies.

Information for Users on Collection and Disposal of Old Equipment



This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.
For proper treatment, recovery and recycling of old products, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC.

By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

[For business users in the European Union]
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]
This symbol is only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

European models
Purchaser/User Information specified in EN55103-1 and EN55103-2.
Conforms to Environments: E1, E2, E3 and E4

Introduction

Thank you for choosing the Yamaha MY4-AEC. The MY4-AEC is an acoustic echo canceller card designed for use with the DME64N/24N Digital Mixing Engines that can effectively reduce troublesome acoustic echoes due to secondary pickup of speaker output and reflections from room surfaces in teleconferencing situations. It is also capable of reducing feedback as well as ambient noise from air conditioning and fans. This technology enables noise-free, high-intelligibility teleconferencing in just about any environment. Four AES/EBU input and output channels are provided, all with built-in sample rate conversion capability. The MY4-AEC can also connect to digital audio devices that do not allow word clock synchronization.

Installation

Refer to the DME64N/24N owner's manual for installation details. The screws on the left and right sides of the card also ground (earth) the device, so be sure to tighten them securely.

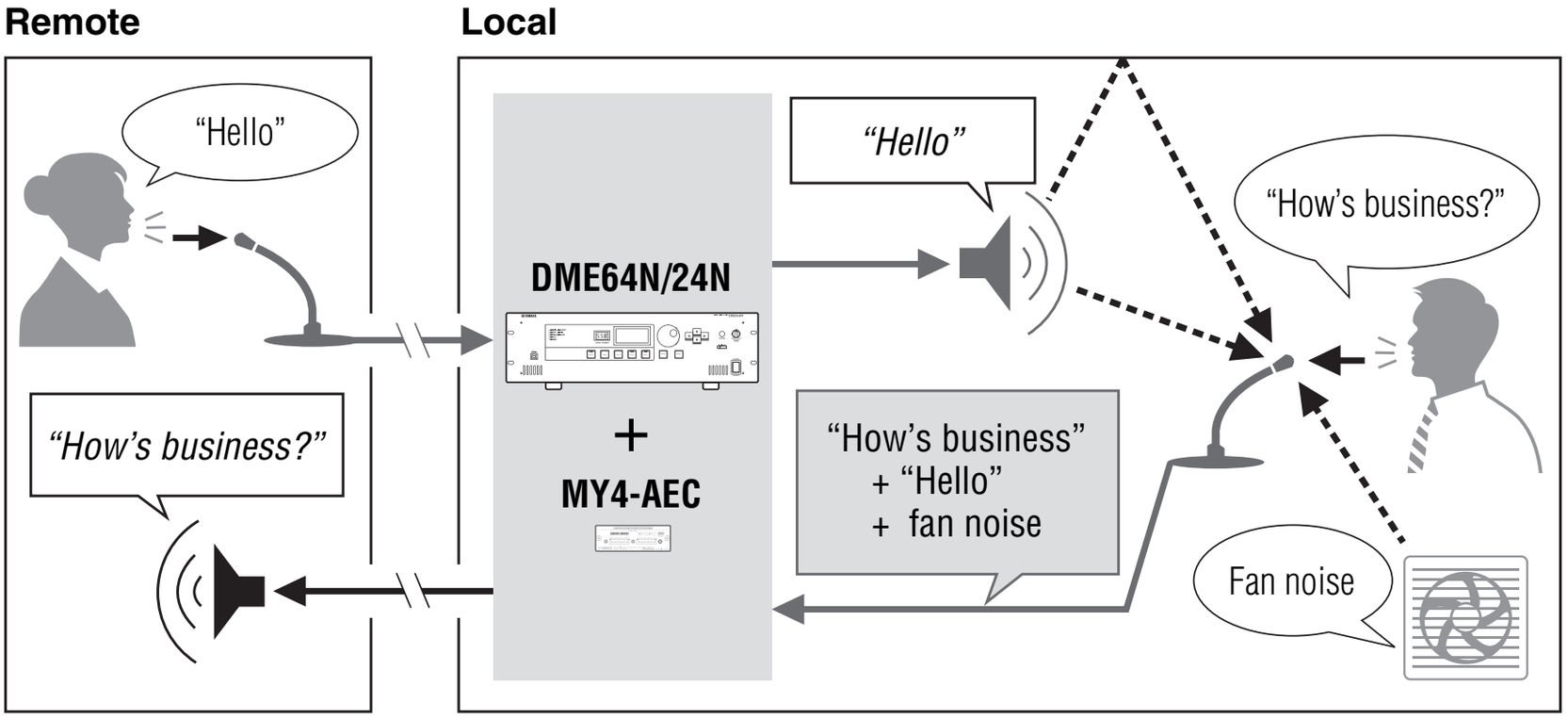
Supplied Items

- Owner's Manual (this document)
- 3-pin Euroblock plugs x 4
- Cable ties x 4

Principle of Operation

How Acoustic Echo and Noise are Reduced

Acoustic echo occurs in a teleconferencing system when the sound from a speaker or reflections from surfaces of the room are picked up by a microphone and transmitted to the other party, resulting in a loss of intelligibility. Projectors and air conditioning systems also produce noise that can interfere with clear teleconferencing. The echo cancelling and noise reduction capabilities of the MY4-AEC help to achieve maximum clarity and intelligibility for smooth, effective communication.

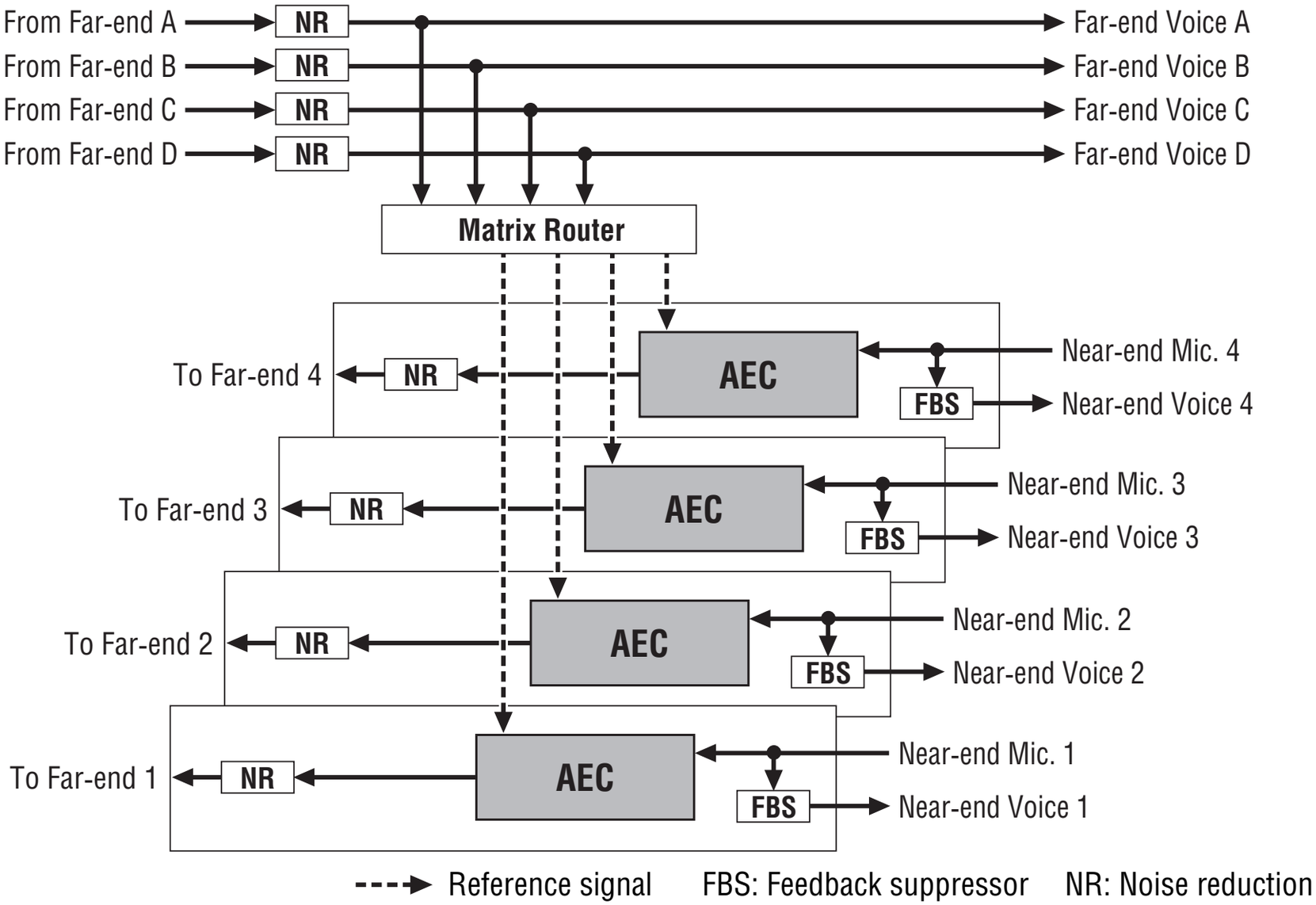


NOTE

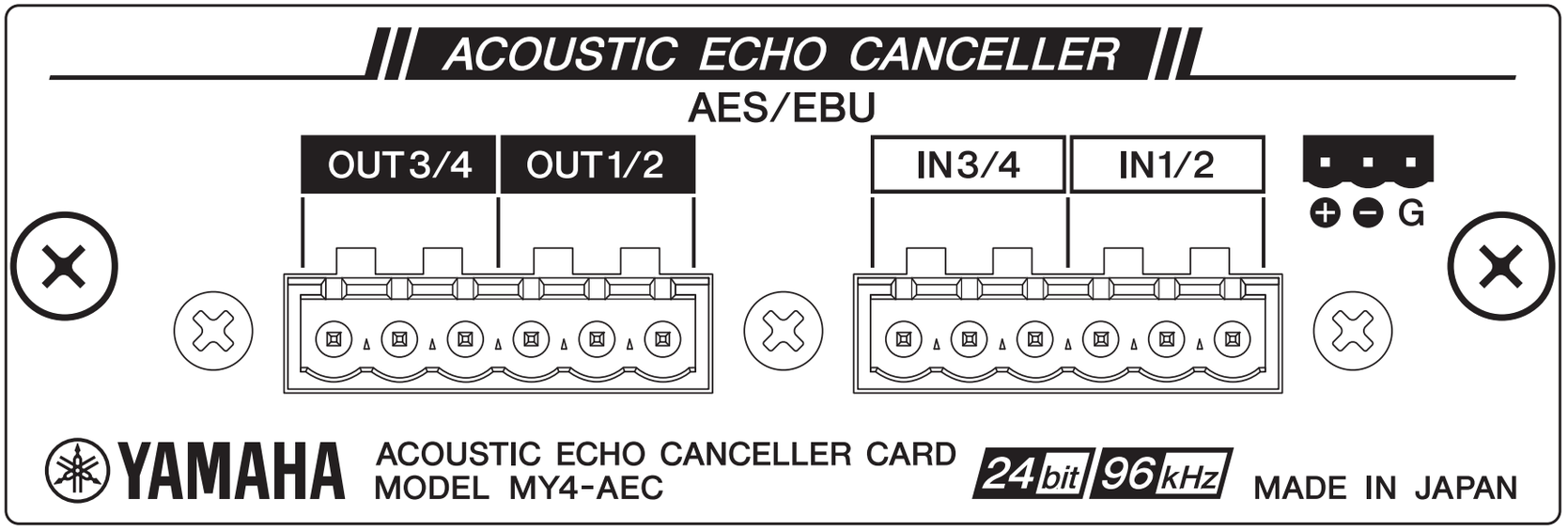
In order to reduce acoustic echo originating from the remote location, an echo canceller must be installed and active at the remote location.

MY4-AEC Signal Flow

The local and remote locations in a teleconferencing system are referred to as the “near end” and “far end”, respectively. The MY4-AEC acoustic echo canceller (AEC) works by comparing the reference signal received from the far-end with the signal from the microphone in order to determine which components of the signal are echo, and then subtracts only the far-end echo component from microphone signal. The near-end sound is thus clearly transmitted to the far end without echo.



The Connectors and Their Functions

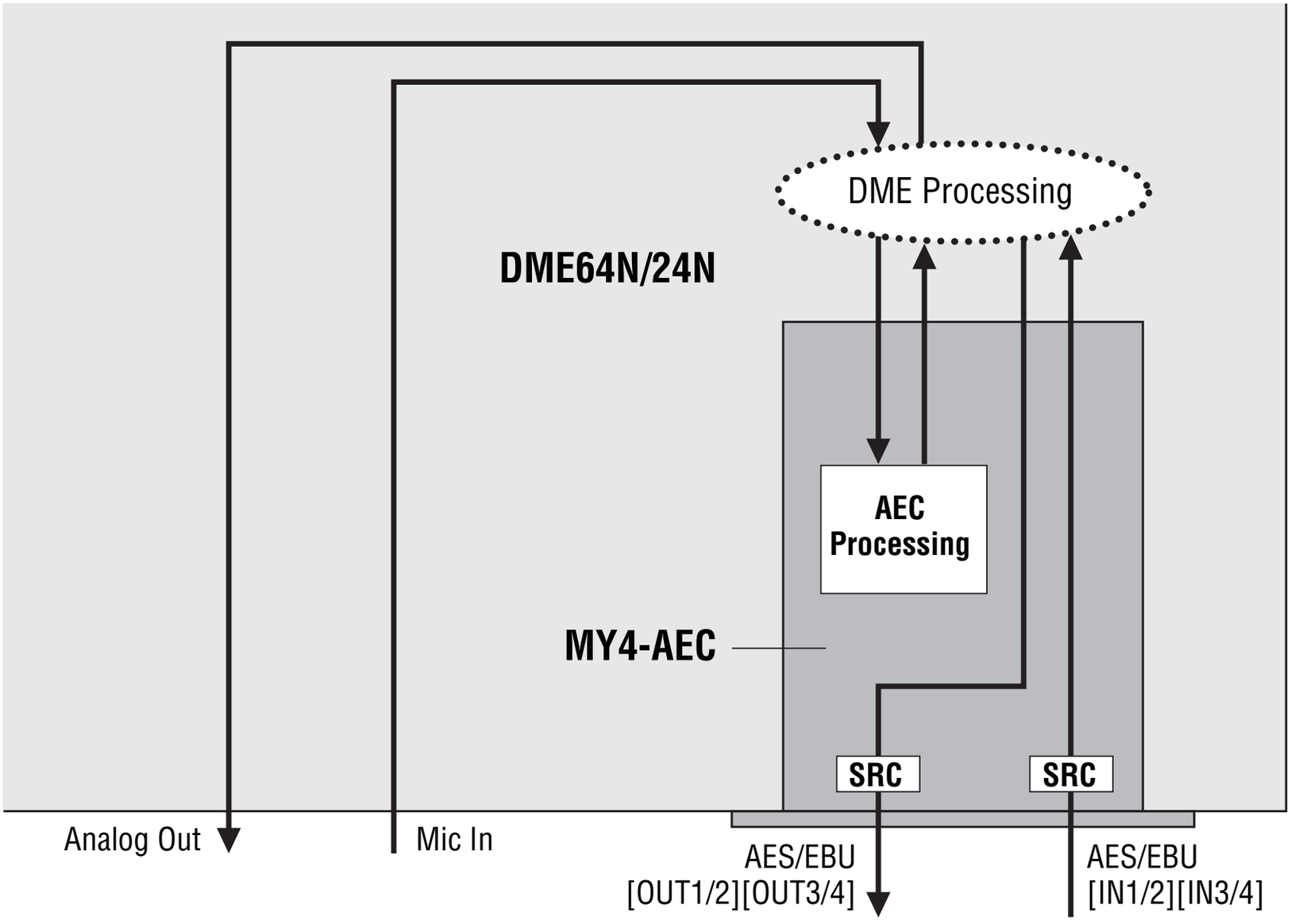


AES/EBU IN and OUT Connectors

These connectors support four channels of AES/EBU format digital audio input and output to and from the host DME64N/24N unit, but those signals are not directly routed via the MY4-AEC processing section. Signals from the host's analog or digital inputs must be routed to the MY4-AEC card's AEC processing section via the host's processing section in order to apply echo cancellation, as shown in the illustration below. Operational details are provided in the DME Designer owner's manual. Built-in sample rate conversion is provided for all inputs and outputs (sample rate conversion settings are also made via the DME Designer software).
Use the supplied Euroblock plugs for connection (refer to "Euroblock Connection" on page 10).

NOTE

The channel 3 and channel 4 inputs and outputs ([IN3/4] and [OUT3/4] in the above illustration) cannot be used when the DME64N/24N word clock sampling rate is set to 88.2 kHz or 96 kHz.

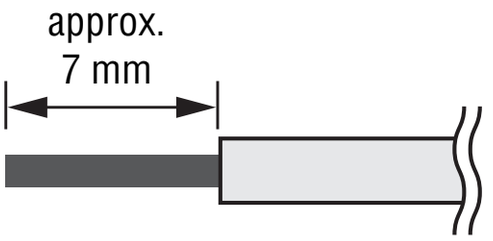

DME Processing
DME64N/24N
AEC
Processing
MY4-AEC
SRC
SRC
Analog Out
Mic In
AES/EBU
[OUT1/2][OUT3/4]
AES/EBU
[IN1/2][IN3/4]

Euroblock Connection

Please be sure to use the supplied Euroblock plugs to connect the AES/EBU [IN] and [OUT] connectors.

Cable preparation

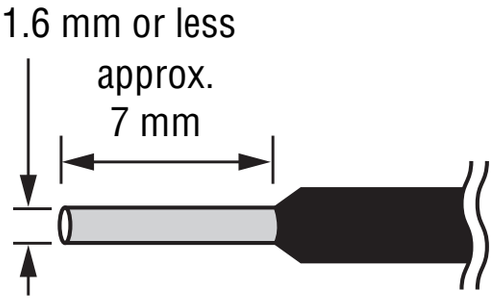
- To prepare the cable for attachment to a Euroblock connector, strip the wire as shown in the illustration using stranded wire to make connections. With a Euroblock connection, stranded wires may be prone to breakage because of metal fatigue due to the weight of the cable or due to vibration. Bundle the cables and the Euroblock tabs using the supplied cable ties (page 12). When rackmounting your equipment, use a lacing bar when possible to bundle and fasten the cables.



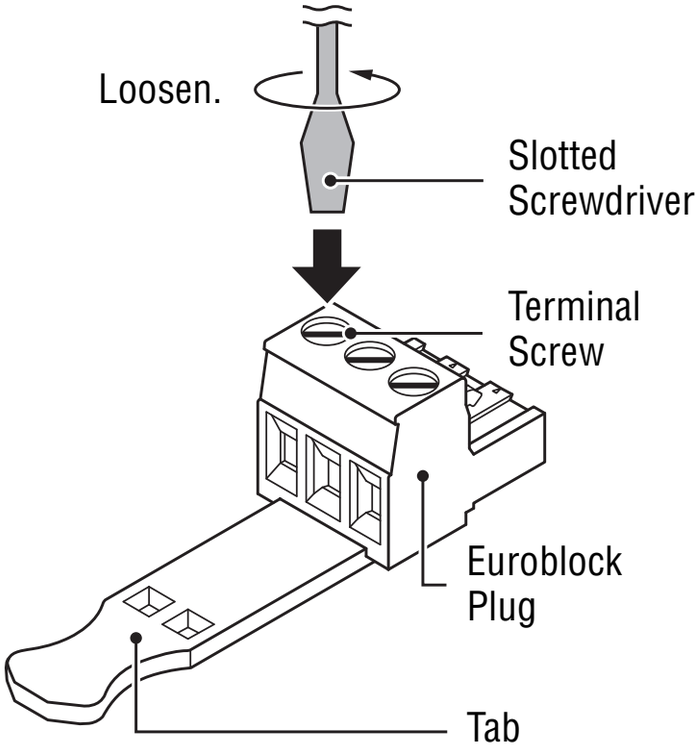
NOTE

Do not tin (plate with solder) the exposed end.

- If cables will be frequently connected and disconnected, as in the case of a portable installation, we recommend that you use ferrules with insulation sleeves. Use a ferrule whose conductor portion has an external diameter of 1.6 mm or less, and a length of approximately 7 mm (such as the AI0,5-6WH made by the Phoenix Contact corporation).

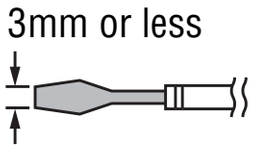


1 Loosen terminal screws.

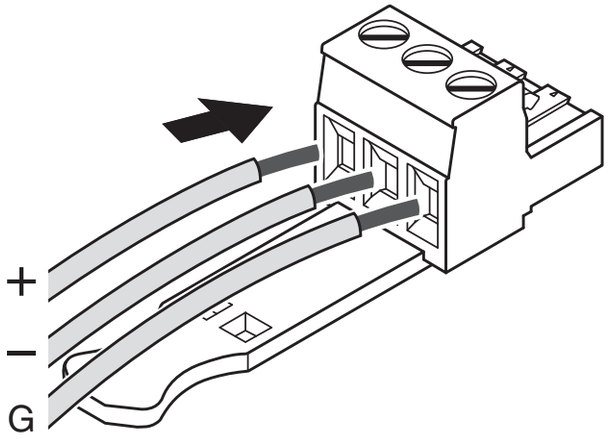


NOTE

A slotted screwdriver with a blade width of about 3 millimeters is recommended.



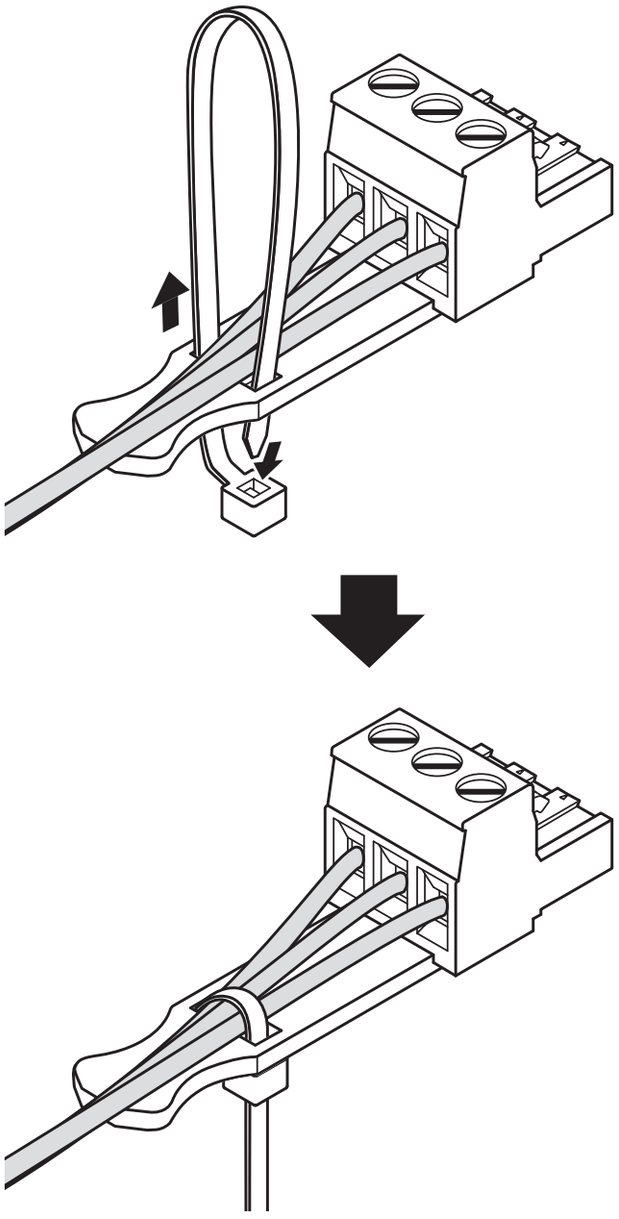
2 Insert cables.



3 Securely tighten terminal screws.

Pull the cables (not too strongly) to confirm that they are securely connected.

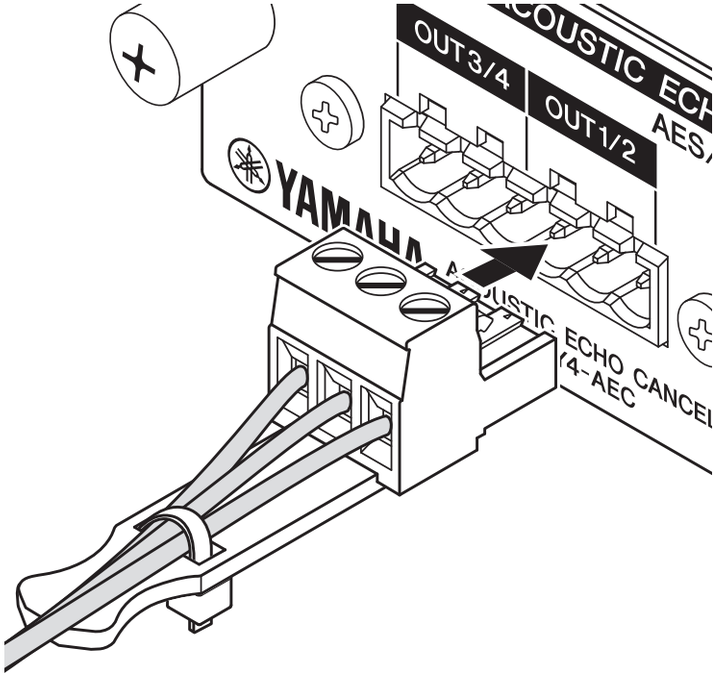
4 **Bundle the cables and the Euroblock tab using the supplied cable tie.**



NOTE

Trim any excess part of the cable tie as necessary.

5 **Insert the Euroblock plug into the AES/EBU [IN] or [OUT] connector of the MY4-AEC.**



Basic Connection and Setup

Example 1: Teleconferencing with a Remote Location

This is an example of a teleconferencing system set up to allow multiple participants to hold conferences with a remote location (“Office X”).

Preparation

The first step is to make the basic local (near end) connections and determine the optimum microphone and speaker locations as well as gain settings. The AEC system will have the best possible effect if these initial steps are carried out properly.

1 Prepare the following equipment.

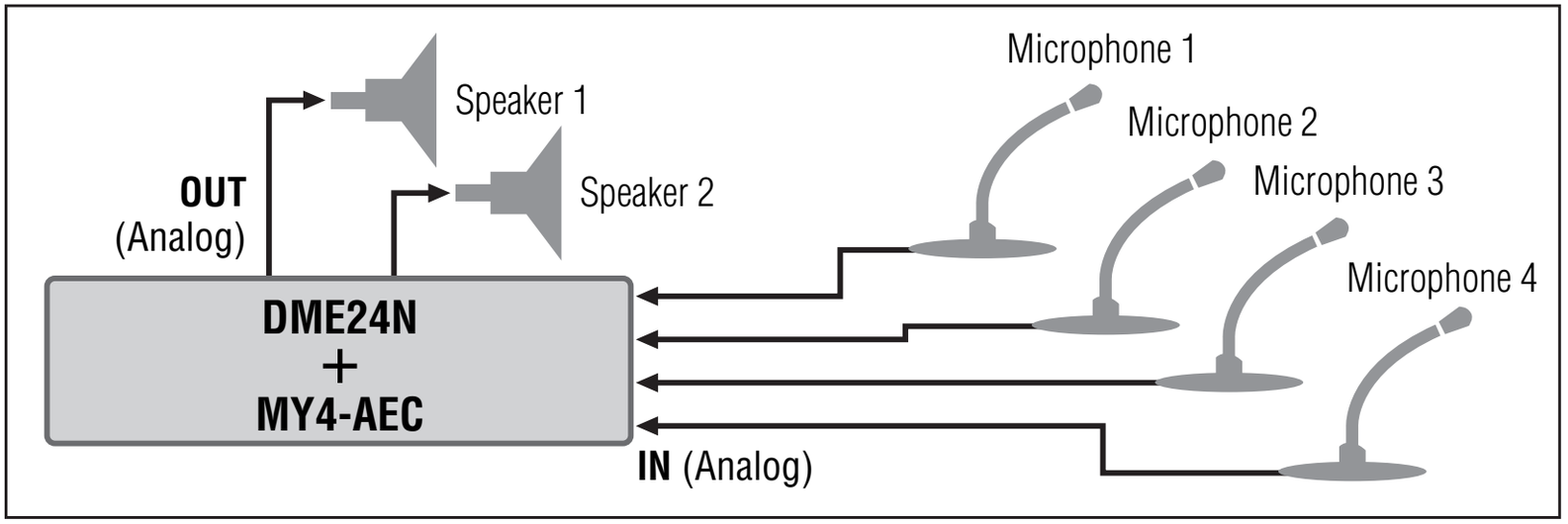
- DME24N x 1
- MY4-AEC x 1
- Microphones x 4
- Speakers x 2

NOTE

Be sure to choose microphones and speakers that have good frequency response characteristics in order to ensure optimum AEC operation.

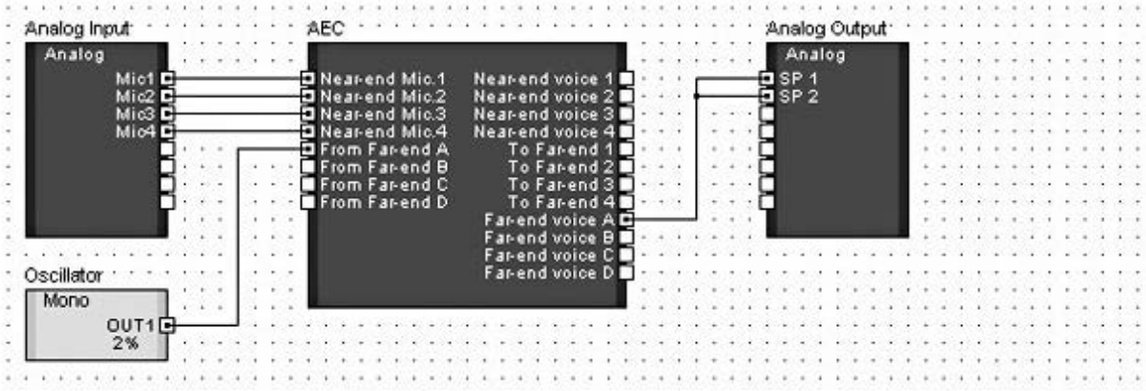
2 Connect the microphones and speakers to the analog [IN] and [OUT] connectors on the DME24N rear panel as shown in the diagram.

Meeting Room (Near End)



3 Make the required virtual connections in the DME Designer configuration window.

- Connect the signals from microphone inputs 1 – 4 to the “Near-end Mic. 1” – “Near-end Mic. 4” inputs on the AEC component.
- Place an oscillator that will be used for AEC adjustment in the configuration window and connect it to the AEC component “From Far-end A” input.
- The “Far-end voice A” output is connected to the conference room speakers (SP 1 and SP 2) in parallel.

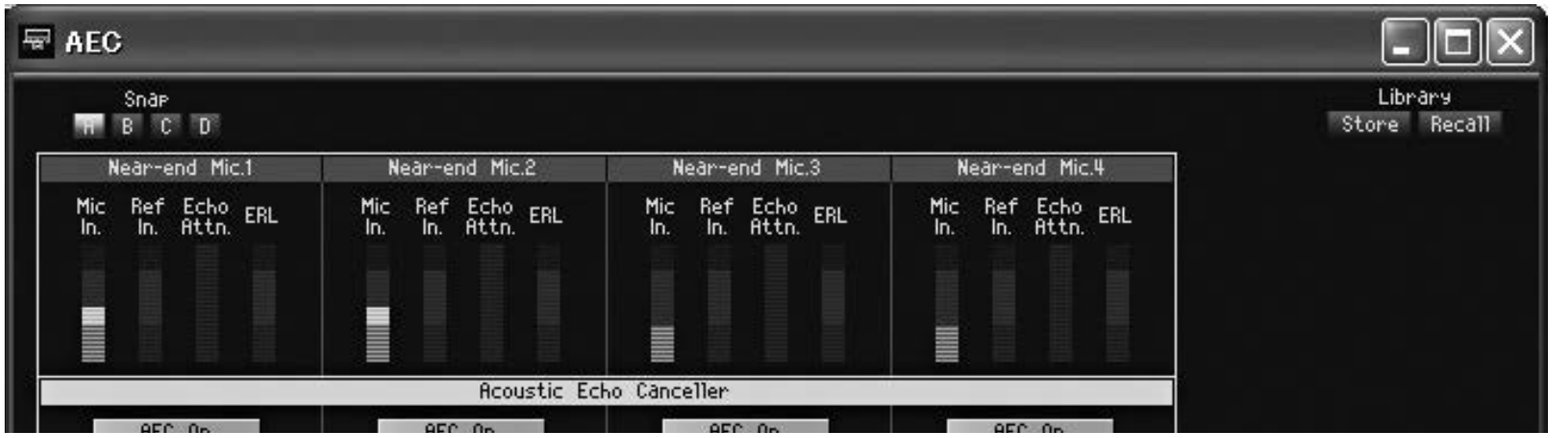


4 Speak into the microphones as you would during an actual conference and adjust the input gain of each channel.

Adjust the DME24N HA Gain while watching the “Mic. In” meters in the AEC component editor so that the yellow segment lights only occasionally.

NOTE

AEC may not function properly if the gain is set too high.



5 Open the Oscillator component editor, set the Wave Form type to “Pink,” and engage the Output section “On” button.

Go back to the AEC component editor and, while watching the “Ref. In” meter, adjust the oscillator output level so that the yellow segment lights only occasionally.

6 Check that the ERL (Echo Return Loss) meter in the AEC component is moving.

If this meter is moving over a wide range it means that a large portion of the pink noise being output from the speaker is being picked up by the corresponding microphone, and therefore a large amount of echo will be transmitted to the remote location. Carefully adjust the positions and pickup directions of the four microphones in relation to the speakers in order to reduce this echo level as much as possible. The more you can reduce the echo at this stage, the more effective the AEC will be.

NOTE

- If the local meeting room is very reflective or reverberant, it may be difficult to reduce the echo level sufficiently by simply repositioning the microphones and speakers. In such cases it may be necessary to apply acoustic panels to the walls or use other means to reduce room reflections.
- If only the green segment of the ERL meter lights, setting the “Effect” parameter to 1 or 2 should be optimum, but if the yellow segment of the ERL meter lights an “Effect” setting of 3 or 4 will be required to produce the best results. Since the actual effectiveness of the processing will depend on the rooms in which it is used it is important make adjustments while actually connected to and conferring with the remote location.
- If the input signal becomes distorted for any reason before it reaches the Near-end Mic. 1 – 4 inputs of the AEC component, echo cancelling will not function properly.

7 Enter the microphone-to-speaker distance in meters into the Acoustic Echo Canceller section “Distance” field.

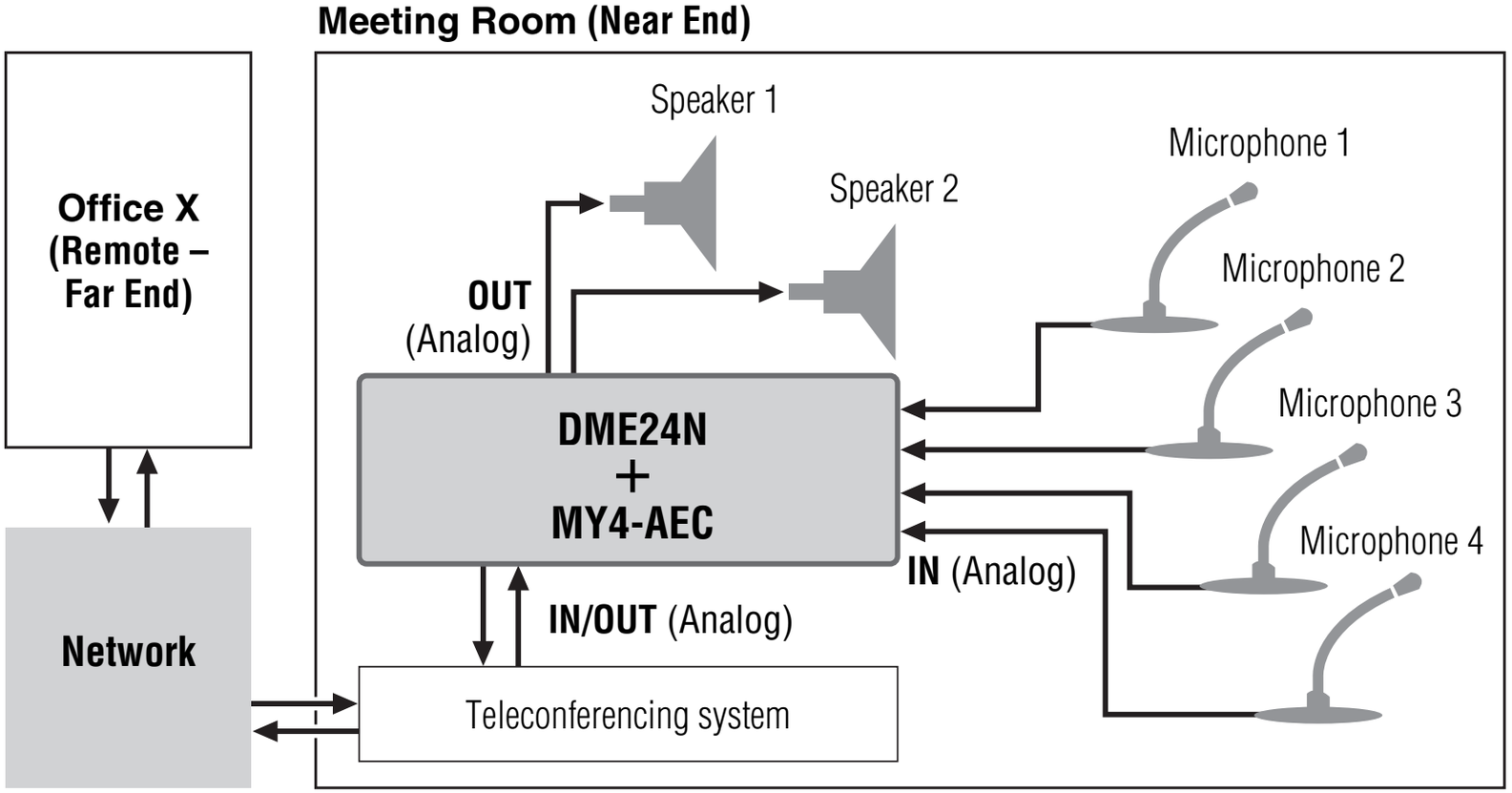
If multiple speakers are used, enter the distance between the microphone and nearest speaker for each channel.

If the distance is less than 2 meters, use the default value of “2”. For greater distances enter the appropriate value.

Remote Connection and Settings

1 Connect the microphones, speakers, and teleconferencing system to the analog [IN] and [OUT] connectors on the rear panel of the DME24N as shown in the diagram.

Four microphones can be connected at the near-end location, allowing multiple conference participants.

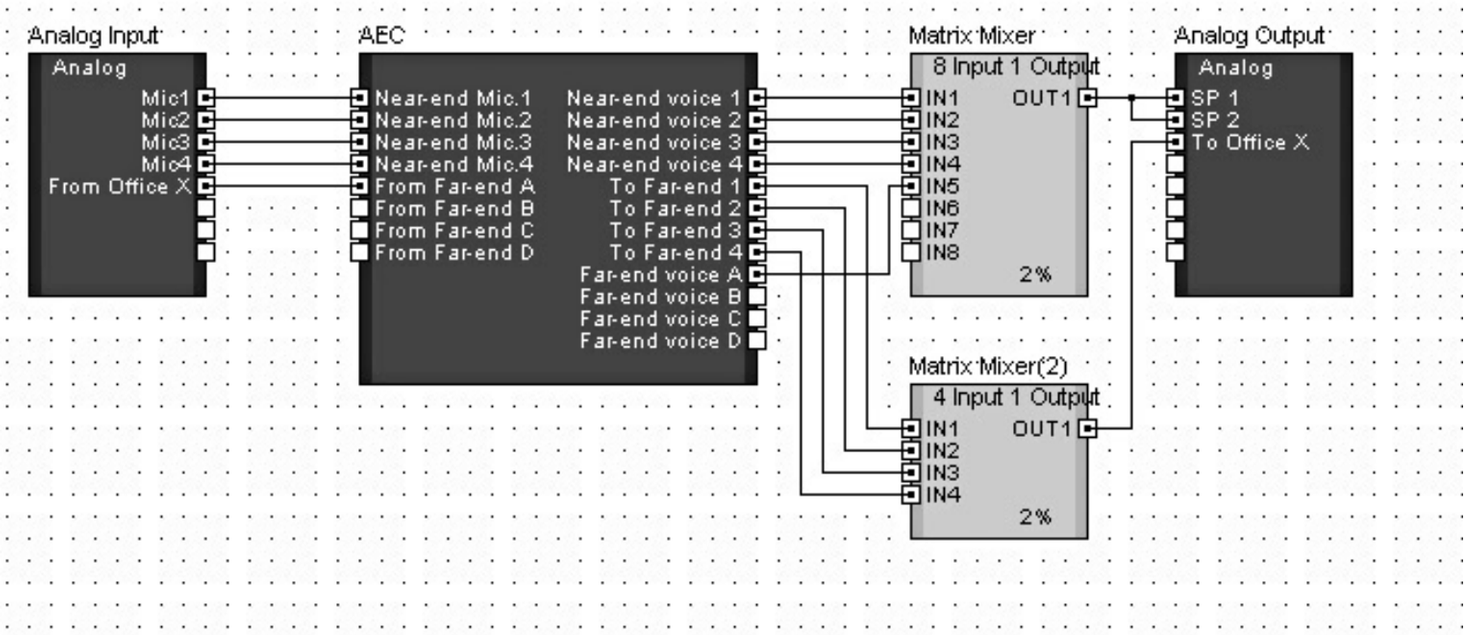


2 Make the required virtual connections in the DME Designer configuration window.

- Connect the signal from the four local microphones (Mic1 – Mic4) and the audio signal from the remote location (From Office X) to the appropriate inputs of the AEC component.
- Mix the “Near-end Voice 1” – “Near-end Voice 4” outputs and the “Far-end Voice A” outputs from the AEC component and connect the mixed output in parallel to the meeting room speakers (SP 1 and SP 2).
- Mix the “To Far-end 1” – “To Far-end 4” outputs from the AEC component and connect the mixed output to “To Office X” for transmission to the remote location.

HINT

When multiple speakers are being used in the local meeting room, be sure to connect the mixed signal to them in parallel. AEC may not function properly if the output balance between the speakers changes.



3 Adjust the DME Designer AEC component editor parameters so that acoustic echo is effectively cancelled from the audio signal sent to Office X.

Begin by checking that the connection with Office X is working properly and that conversation is possible. If echo can be heard with the default AEC section Effect setting of “1”, try increasing the setting in small increments. Echo cancellation efficiency will increase as the setting is increased, but sound quality will decrease at the same time so it is necessary to find the best setting for conditions in the local meeting room while actually listening to the audio signal.

Other parameters can usually be left at their default settings. Refer to the DME Designer owner’s manual for details on the individual AEC component parameters.

Example 2: Teleconferencing with Two Remote Locations from Two Meeting Rooms

Using one MY4-AEC card, multiple participants in two meeting rooms can teleconference with two separate remote locations (“Office X” and “Office Y”).

Preparation

Referring to Example 1, use an oscillator component to determine the ideal microphone and speaker positions for each meeting room.

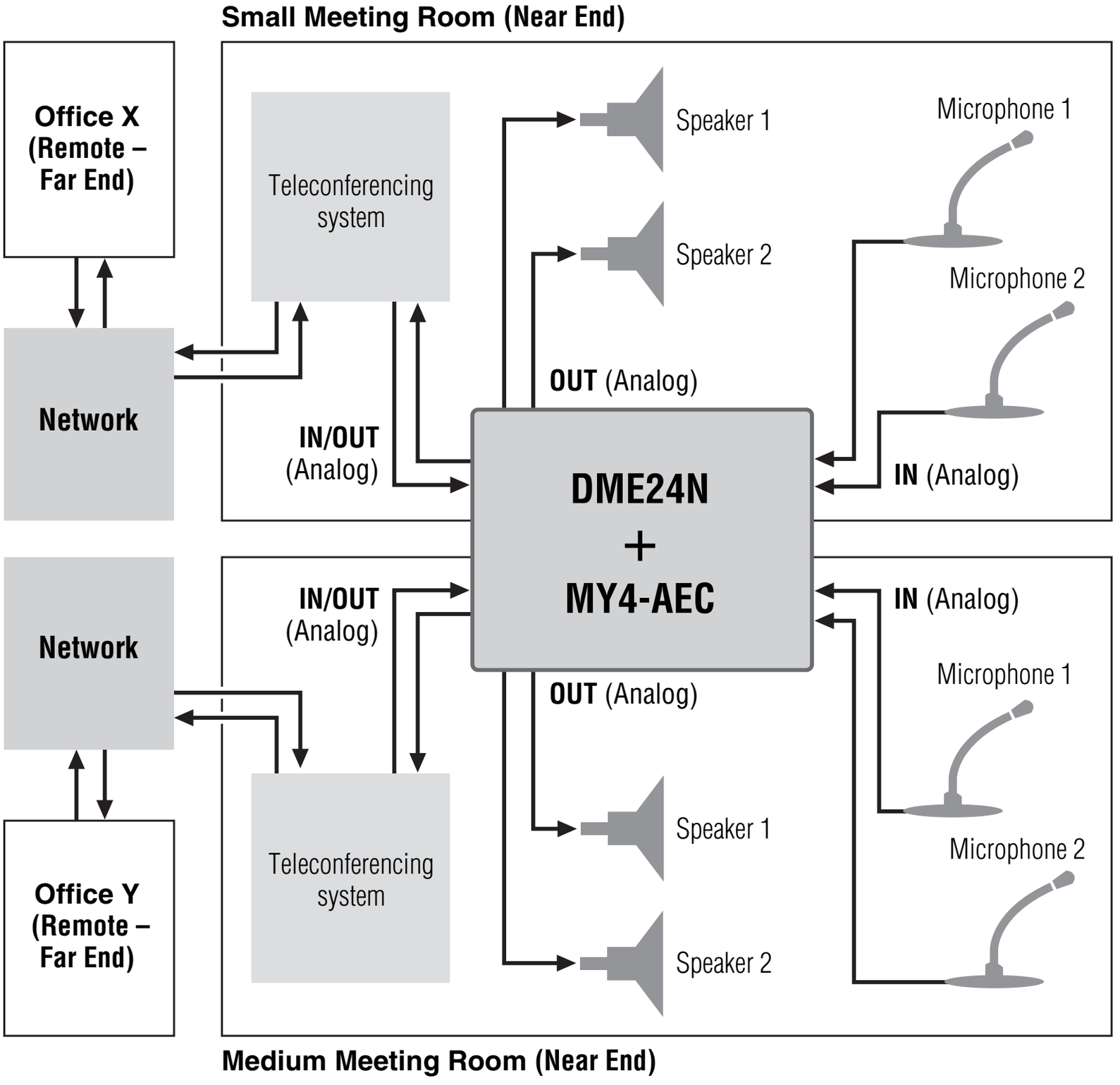
The following equipment is used.

- DME24N x 1
- MY4-AEC x 1
- Microphones x 4
- Speakers x 4

Remote Connection and Settings

1 Connect the microphones, speakers, and teleconferencing system to the analog [IN] and [OUT] connectors on the rear panel of the DME24N as shown in the diagram.

A total of four microphones can be connected for the medium and small near-end meeting rooms, allowing multiple participants to confer simultaneously in both rooms.

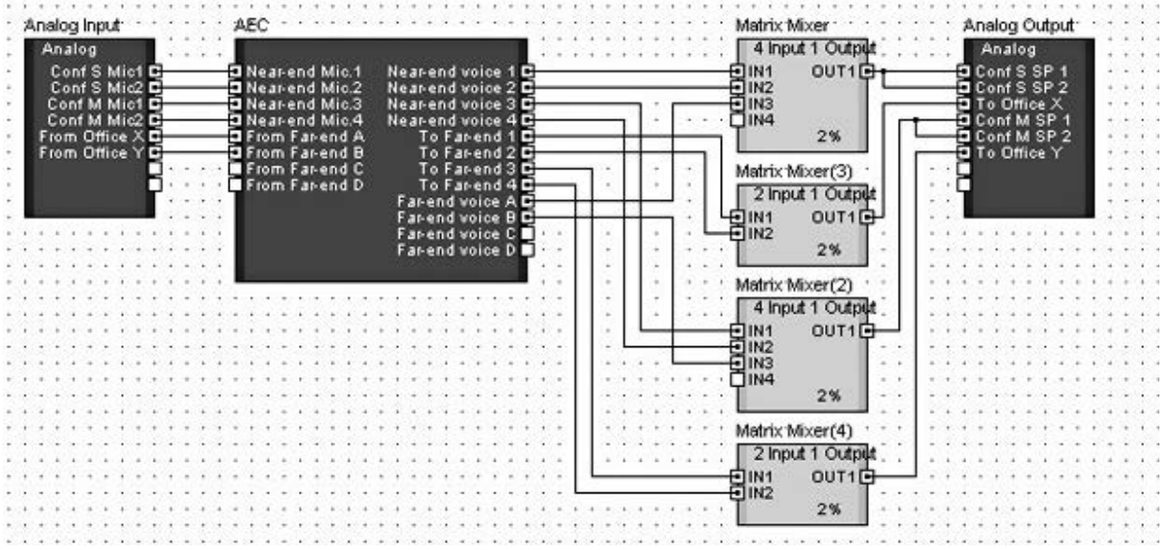

Small Meeting Room (Near End)
Office X (Remote – Far End)
Teleconferencing system
Speaker 1
Speaker 2
Microphone 1
Microphone 2
Network
OUT (Analog)
IN/OUT (Analog)
DME24N + MY4-AEC
IN (Analog)
Network
IN/OUT (Analog)
IN (Analog)
Microphone 1
OUT (Analog)
Speaker 1
Microphone 2
Teleconferencing system
Office Y (Remote – Far End)
Speaker 2
Medium Meeting Room (Near End)

2 Make the required virtual connections in the DME Designer configuration window.

- Connect the signal from the microphones in the small and medium local meeting rooms (Conf S Mic1/2 and Conf M – Mic1/2) and the audio signal from the remote locations (From Office X and From Office Y) to the appropriate inputs of the AEC component.
- Mix the “Near-end Voice 1” and “Near-end Voice 2” outputs and the “Far-end Voice A” outputs from the AEC component and connect the mixed output in parallel to the small meeting room speakers (Conf S SP 1 and SP 2).
- Mix the “Near-end Voice 3” and “Near-end Voice 4” outputs and the “Far-end Voice B” outputs from the AEC component and connect the mixed output in parallel to the medium meeting room speakers (Conf M SP 1 and SP 2).
- Mix the “To Far-end 1” and “To Far-end 2” outputs from the AEC component and connect the mixed output to “To Office X” for transmission to remote Office X.
- Mix the “To Far-end 3” and “To Far-end 4” outputs from the AEC component and connect the mixed output to “To Office Y” for transmission to remote Office Y.

HINT

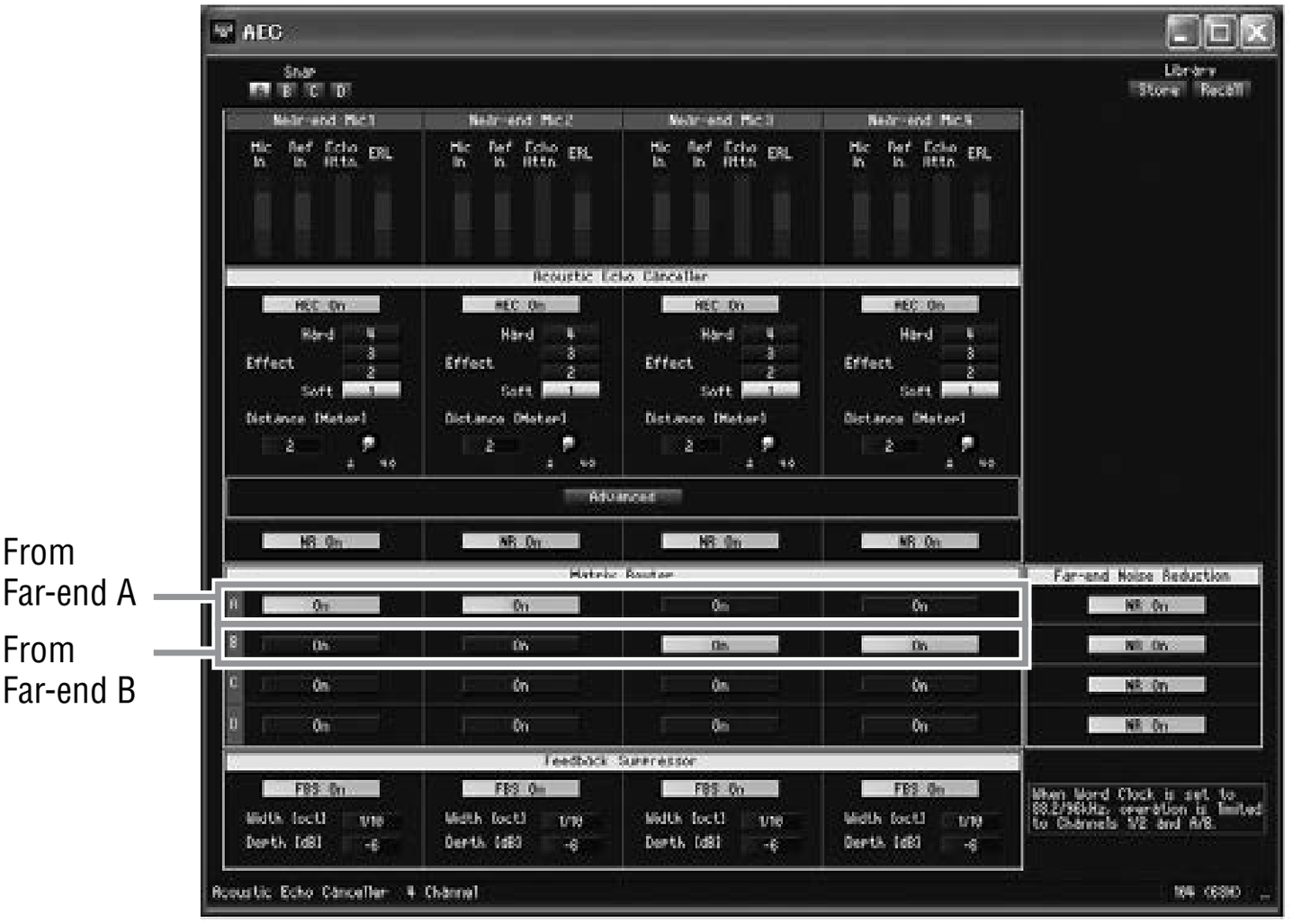
When multiple speakers are being used in the same meeting room, be sure to connect the mixed signal to them in parallel. AEC may not function properly if the output balance between the speakers changes.



3 In the Matrix Router section of the AEC component editor, select one or more of the “From Far-end A – D signals” to be used as the reference for each AEC channel 1 – 4.

The “On” buttons in the Matrix Router section can be used to select microphones and locations for each meeting room.

For this example the Matrix Router is set as shown below. With these settings it is possible to simultaneously hold independent conferences between the small meeting room and Office X (Far-end A) using AEC channels 1 and 2, and between the medium meeting room and Office Y (Far-end B) using AEC channels 3 and 4.



Appendix

Specifications

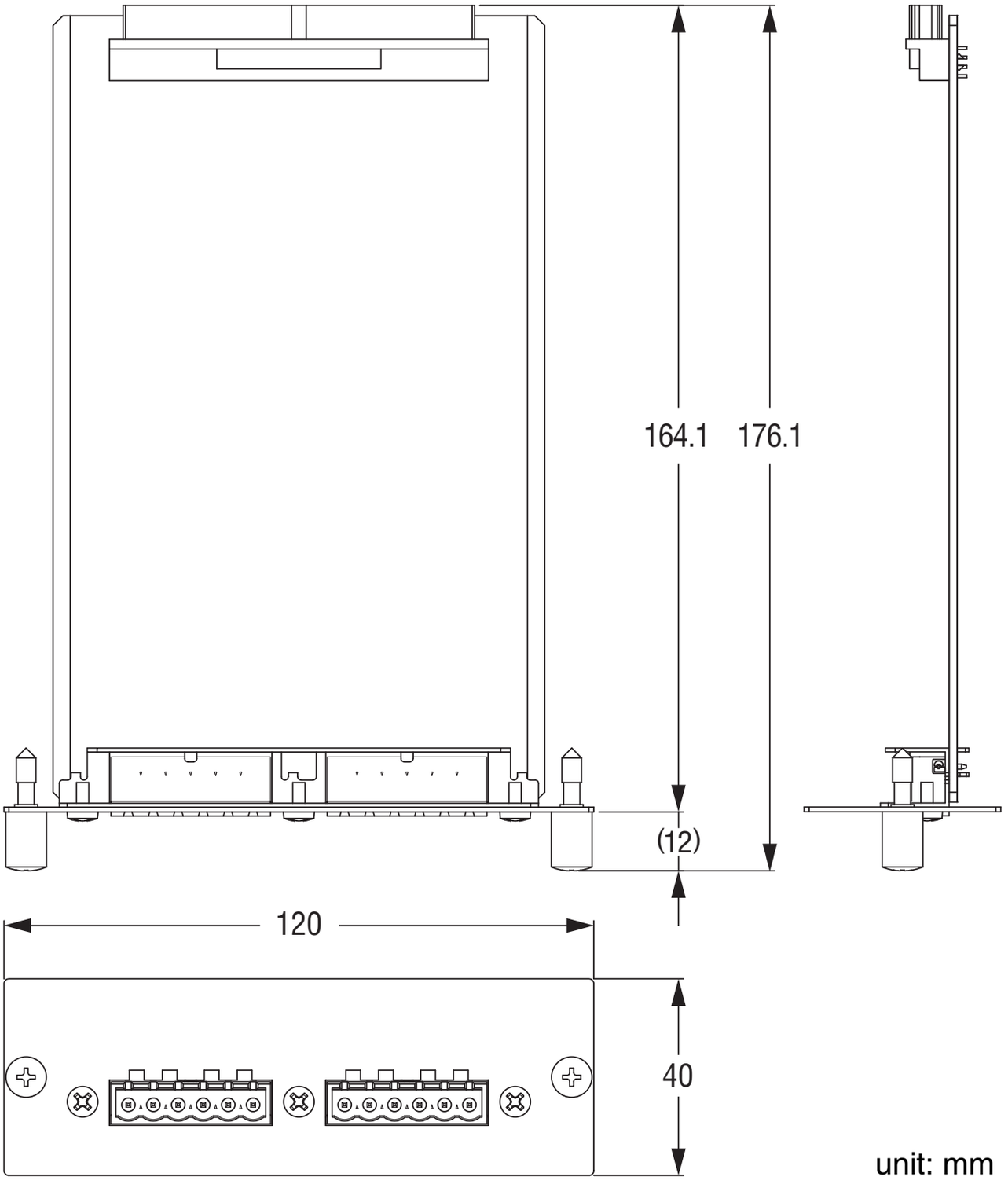
● GENERAL SPECIFICATIONS

Sampling Frequency		44.1kHz-10% to 48kHz+6%, 88.2kHz-10% to 96kHz+6%
Power requirements		5V : 395mA
		3.3V : 295mA
Temperature Range	Operating	0 to +40°C
	Storage	-20 to +60°C
Weight		160g

● DIGITAL INPUT/OUTPUT CHARACTERISTICS

Terminal	Format	Audio Data Length	Level	Connector
IN 1/2, 3/4	AES/EBU	24bit	RS422	Euroblock
OUT 1/2, 3/4	AES/EBU (Professional use)	24bit	RS422	Euroblock

Dimensions



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* 仕様および外観は改良のため、予告なく変更することがあります。

Memo

Memo

Important Notice: Guarantee Information for customers in European Economic Area (EEA) and Switzerland

English

Important Notice: Guarantee Information for customers in EEA* and Switzerland

For detailed guarantee information about this Yamaha product, and Pan-EEA* and Switzerland warranty service, please either visit the website address below (Printable file is available at our website) or contact the Yamaha representative office for your country. * EEA: European Economic Area

Deutsch

Wichtiger Hinweis: Garantie-Information für Kunden in der EWR* und der Schweiz

Für nähere Garantie-Information über dieses Produkt von Yamaha, sowie über den Pan-EWR*- und Schweizer Garantieservice, besuchen Sie bitte entweder die folgend angegebene Internetadresse (eine druckfähige Version befindet sich auch auf unserer Webseite), oder wenden Sie sich an den für Ihr Land zuständigen Yamaha-Vertrieb. *EWR: Europäischer Wirtschaftsraum

Français

Remarque importante: informations de garantie pour les clients de l'EEE et la Suisse

Pour des informations plus détaillées sur la garantie de ce produit Yamaha et sur le service de garantie applicable dans l'ensemble de l'EEE ainsi qu'en Suisse, consultez notre site Web à l'adresse ci-dessous (le fichier imprimable est disponible sur notre site Web) ou contactez directement Yamaha dans votre pays de résidence. * EEE : Espace Economique Européen

Nederlands

Belangrijke mededeling: Garantie-informatie voor klanten in de EER* en Zwitserland

Voor gedetailleerde garantie-informatie over dit Yamaha-product en de garantieservice in heel de EER* en Zwitserland, gaat u naar de onderstaande website (u vind een afdrukbaar bestand op onze website) of neemt u contact op met de vertegenwoordiging van Yamaha in uw land. * EER: Europese Economische Ruimte

Español

Aviso importante: información sobre la garantía para los clientes del EEE* y Suiza

Para una información detallada sobre este producto Yamaha y sobre el soporte de garantía en la zona EEE* y Suiza, visite la dirección web que se incluye más abajo (la version del archivo para imprimir esta disponible en nuestro sitio web) o póngase en contacto con el representante de Yamaha en su país. * EEE: Espacio Económico Europeo

Italiano

Avviso importante: informazioni sulla garanzia per i clienti residenti nell'EEA* e in Svizzera

Per informazioni dettagliate sulla garanzia relativa a questo prodotto Yamaha e l'assistenza in garanzia nei paesi EEA* e in Svizzera, potete consultare il sito Web all'indirizzo riportato di seguito (è disponibile il file in formato stampabile) oppure contattare l'ufficio di rappresentanza locale della Yamaha. * EEA: Area Economica Europea

Português

Aviso importante: informações sobre as garantias para clientes da AEE* e da Suíça

Para obter uma informação pormenorizada sobre este produto da Yamaha e sobre o serviço de garantia na AEE* e na Suíça, visite o site a seguir (o arquivo para impressão está disponível no nosso site) ou entre em contato com o escritório de representação da Yamaha no seu país. * AEE: Área Econômica Européia

Ελληνικά

Σημαντική σημείωση: Πληροφορίες εγγύησης για τους πελάτες στον ΕΟΧ* και Ελβετία

Για λεπτομερείς πληροφορίες εγγύησης σχετικά με το παρόν προϊόν της Yamaha και την κάλυψη εγγύησης σε όλες τις χώρες του ΕΟΧ και την Ελβετία, επισκεφτείτε την παρακάτω ιστοσελίδα (Εκτυπώσιμη μορφή είναι διαθέσιμη στην ιστοσελίδα μας) ή απευθυνθείτε στην αντιπροσωπεία της Yamaha στη χώρα σας. * ΕΟΧ: Ευρωπαϊκός Οικονομικός Χώρος

Svenska

Viktigt: Garantiinformation för kunder i EES-området* och Schweiz

För detaljerad information om denna Yamahaprodukt samt garantiservice i hela EES-området* och Schweiz kan du antingen besöka nedanstående webbaddress (en utskriftsvänlig fil finns på webbplatsen) eller kontakta Yamahas officiella representant i ditt land. * EES: Europeiska Ekonomiska Samarbetsområdet

Norsk

Viktig merknad: Garantiinformasjon for kunder i EØS* og Sveits

Detaljert garantiinformasjon om dette Yamaha-produktet og garantiservice for hele EØS-området* og Sveits kan fås enten ved å besøke nettadressen nedenfor (utskriftsversjon finnes på våre nettsider) eller kontakte kontakte Yamaha-kontoret i landet der du bor. *EØS: Det europeiske økonomiske samarbeidsområdet

Dansk

Vigtig oplysning: Garantioplysninger til kunder i EØO* og Schweiz

De kan finde detaljerede garantioplysninger om dette Yamaha-produkt og den fælles garantiserviceordning for EØO* (og Schweiz) ved at besøge det websted, der er angivet nedenfor (der findes en fil, som kan udskrives, på vores websted), eller ved at kontakte Yamahas nationale repræsentationskontor i det land, hvor De bor. * EØO: Det Europæiske Økonomiske Område

Tärkeä ilmoitus: Takuutiedot Euroopan talousalueen (ETA)* ja Sveitsin asiakkaille — Suomi

Tämän Yamaha-tuotteen sekä ETA-alueen ja Sveitsin takuuta koskevat yksityiskohtaiset tiedot saatte alla olevasta nettiosoitteesta. (Tulostettava tiedosto saatavissa sivustollamme.) Voitte myös ottaa yhteyttä paikalliseen Yamaha-edustajaan.
*ETA: Euroopan talousalue

Ważne: Warunki gwarancyjne obowiązujące w EOG* i Szwajcarii — Polski

Aby dowiedzieć się więcej na temat warunków gwarancyjnych tego produktu firmy Yamaha i serwisu gwarancyjnego w całym EOG* i Szwajcarii, należy odwiedzić wskazaną poniżej stronę internetową (Plik gotowy do wydruku znajduje się na naszej stronie internetowej) lub skontaktować się z przedstawicielstwem firmy Yamaha w swoim kraju. * EOG — Europejski Obszar Gospodarczy

Důležité oznámení: Záruční informace pro zákazníky v EHS* a ve Švýcarsku — Česky

Podrobné záruční informace o tomto produktu Yamaha a záručním servisu v celém EHS* a ve Švýcarsku naleznete na níže uvedené webové adrese (soubor k tisku je dostupný na našich webových stránkách) nebo se můžete obrátit na zastoupení firmy Yamaha ve své zemi. * EHS: Evropský hospodářský prostor

Fontos figyelmeztetés: Garancia-információk az EGT* területén és Svájcban élő vásárlók számára — Magyar

A jelen Yamaha termékre vonatkozó részletes garancia-információk, valamint az EGT*-re és Svájcra kiterjedő garanciális szolgáltatás tekintetében keresse fel webhelyünket az alábbi címen (a webhelyen nyomtatható fájlt is talál), vagy pedig lépjen kapcsolatba az országában működő Yamaha képviseleti irodával. * EGT: Európai Gazdasági Térség

Oluline märkus: Garantiiteave Euroopa Majanduspiirkonna (EMP)* ja Šveitsi klientidele — Eesti keel

Täpsema teabe saamiseks selle Yamaha toote garantii ning kogu Euroopa Majanduspiirkonna ja Šveitsi garantiiteeninduse kohta, külastage palun veebisaiti alljärgneval aadressil (meie saidil on saadaval prinditav fail) või pöörduge Teie regiooni Yamaha esinduse poole. * EMP: Euroopa Majanduspiirkond

Svarīgs paziņojums: garantijas informācija klientiem EEZ* un Šveicē — Latviešu

Lai saņemtu detalizētu garantijas informāciju par šo Yamaha produktu, kā arī garantijas apkalpošanu EEZ* un Šveicē, lūdzu, apmeklējiet zemāk norādīto tīmekļa vietnes adresi (tīmekļa vietnē ir pieejams drukājams fails) vai sazinieties ar jūsu valsti apkalpojošo Yamaha pārstāvniecību. * EEZ: Eiropas Ekonomikas zona

Dėmesio: informacija dėl garantijos pirkėjams EEE* ir Šveicarijoje — Lietuvių kalba

Jei reikia išsamios informacijos apie šį „Yamaha“ produktą ir jo techninę priežiūrą visoje EEE* ir Šveicarijoje, apsilankykite mūsų svetainėje toliau nurodytu adresu (svetainėje yra spausdintinas failas) arba kreipkitės į „Yamaha“ atstovybę savo šaliai.
*EEE – Europos ekonominė erdvė

Dôležité upozornenie: Informácie o záruke pre zákazníkov v EHP* a Švajčiarsku — Slovenčina

Podrobné informácie o záruke týkajúce sa tohto produktu od spoločnosti Yamaha a garančnom servise v EHP* a Švajčiarsku nájdete na webovej stránke uvedenej nižšie (na našej webovej stránke je k dispozícii súbor na tlač) alebo sa obráťte na zástupcu spoločnosti Yamaha vo svojej krajine.
* EHP: Európsky hospodársky priestor

Pomembno obvestilo: Informacije o garanciji za kupce v EGP* in Švici — Slovenščina

Za podrobnejše informacije o tem Yamahinem izdelku ter garancijskem servisu v celotnem EGP in Švici, obiščite spletno mesto, ki je navedeno spodaj (natisljiva datoteka je na voljo na našem spletnem mestu), ali se obrnite na Yamahinega predstavnika v svoji državi. * EGP: Evropski gospodarski prostor

Важно съобщение: Информация за гаранцията за клиенти в ЕИП* и Швейцария — Български език

За подробна информация за гаранцията за този продукт на Yamaha и гаранционното обслужване в паневропейската зона на ЕИП* и Швейцария или посетете посочения по-долу уеб сайт (на нашия уеб сайт има файл за печат), или се свържете с представителния офис на Yamaha във вашата страна. * ЕИП: Европейско икономическо пространство

Notificare importantă: Informații despre garanție pentru clienții din SEE* şi Elveția — Limba română

Pentru informații detaliate privind acest produs Yamaha şi serviciul de garanție Pan-SEE* şi Elveția, vizitați site-ul la adresa de mai jos (fişierul imprimabil este disponibil pe site-ul nostru) sau contactați biroul reprezentanței Yamaha din țara dumneavoastră . * SEE: Spațiul Economic European

http://europe.yamaha.com/warranty/

URL_4

For details of products, please contact your nearest Yamaha representative or the authorized distributor listed below.

NORTH AMERICA

CANADA
Yamaha Canada Music Ltd.
135 Milner Avenue, Toronto, Ontario, M1S 3R1, Canada
Tel: 416-298-1311

U.S.A.
Yamaha Corporation of America
6600 Orangethorpe Avenue, Buena Park, CA 90620, U.S.A.
Tel: 714-522-9011

CENTRAL & SOUTH AMERICA

MEXICO
Yamaha de México, S.A. de C.V.
Av. Insurgentes Sur 1647 Piso 9, Col. San José Insurgentes, Delegación Benito Juárez, México, D.F., C.P. 03900
Tel: 55-5804-0600

BRAZIL
Yamaha Musical do Brasil Ltda.
Rua Joaquim Floriano, 913 - 4º andar, Itaim Bibi, CEP 04534-013 São Paulo, SP. BRAZIL
Tel: 011-3704-1377

ARGENTINA
Yamaha Music Latin America, S.A., Sucursal Argentina
Olga Cossettini 1553, Piso 4 Norte, Madero Este-C1107CEK
Buenos Aires, Argentina
Tel: 011-4119-7000

VENEZUELA
Yamaha Music Latin America, S.A., Sucursal Venezuela
C.C. Manzanares Plaza P4
Ofic. 0401- Manzanares-Baruta
Caracas Venezuela
Tel: 58-212-943-1877

PANAMA AND OTHER LATIN AMERICAN COUNTRIES/ CARIBBEAN COUNTRIES
Yamaha Music Latin America, S.A.
Torre Banco General, Piso No.7, Marbella, Calle 47 y Aquilino de la Guardia, Ciudad de Panamá, República de Panamá
Tel: +507-269-5311

EUROPE

THE UNITED KINGDOM/IRELAND
Yamaha Music Europe GmbH (UK)
Sherbourne Drive, Tilbrook, Milton Keynes, MK7 8BL, U.K.
Tel: 01908-366700

GERMANY
Yamaha Music Europe GmbH
Siemensstraße 22-34, 25462 Rellingen, Germany
Tel: 04101-3030

SWITZERLAND/LIECHTENSTEIN
Yamaha Music Europe GmbH Branch Switzerland in Zürich
Seefeldstrasse 94, 8008 Zürich, Switzerland
Tel: 044-387-8080

AUSTRIA/BULGARIA
Yamaha Music Europe GmbH Branch Austria
Schleiergasse 20, A-1100 Wien, Austria
Tel: 01-60203900

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Schleiergasse 20, A-1100 Wien, Austria
Tel: 01-60203900

POLAND/LITHUANIA/LATVIA/ ESTONIA
Yamaha Music Europe GmbH Branch Poland Office
ul. Wrotkowa 14 02-553 Warsaw, Poland
Tel: 022-500-2925

MALTA
Olimpus Music Ltd.
The Emporium, Level 3, St. Louis Street
Msida MSD06
Tel: 02133-2144

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Yamaha Music Europe Branch Benelux
Clarissenhof 5-b, 4133 AB Vianen, Netherlands
Tel: 0347-358 040

FRANCE
Yamaha Music Europe
7 rue Ambroise Croizat, Zone d'activites Pariest, 77183 Croissy-Beaubourg, France
Tel: 01-64-61-4000

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Yamaha Music Europe GmbH, Branch Italy
Viale Italia 88, 20020 Lainate (Milano), Italy
Tel: 02-935-771

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Ctra. de la Coruna km. 17,200, 28231 Las Rozas (Madrid), Spain
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Philippos Nakas S.A. The Music House
147 Skiathou Street, 112-55 Athens, Greece
Tel: 01-228 2160

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Tel: +46 31 89 34 00

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Generatorvej 6A, DK-2730 Herlev, Denmark
Tel: 44 92 49 00

NORWAY

Yamaha Music Europe GmbH Germany - Norwegian Branch
Grini Næringspark 1, N-1361 Østerås, Norway
Tel: 67 16 78 00

RUSSIA

Yamaha Music (Russia) LLC.
Room 37, bld. 7, Kievskaya street, Moscow, 121059, Russia
Tel: 495 626 5005

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Siemensstraße 22-34, 25462 Rellingen, Germany
Tel: +49-4101-3030

AFRICA

Yamaha Music Gulf FZE
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Tel: +971-4-881-5868

MIDDLE EAST

TURKEY

Yamaha Music Europe GmbH Merkezi Almanya Türkiye İstanbul Şubesi
Maslak Meydan Sokak No:5 Spring Giz Plaza Bağımsız Böl. No:3, 34398 Şişli İstanbul
Tel: +90-212-999-8010

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Yamaha Music Europe GmbH
Siemensstraße 22-34, 25462 Rellingen, Germany
Tel: 04101-3030

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THE PEOPLE'S REPUBLIC OF CHINA

Yamaha Music & Electronics (China) Co.,Ltd.
2F, Yunhedasha, 1818 Xinzha-lu, Jingan-qu, Shanghai, China
Tel: 021-6247-2211

INDIA

Yamaha Music India Pvt. Ltd.
Spazedge building, Ground Floor, Tower A, Sector 47, Gurgaon- Sohna Road, Gurgaon, Haryana, India
Tel: 0124-485-3300

INDONESIA

PT. Yamaha Musik Indonesia (Distributor)
Yamaha Music Center Bldg. Jalan Jend. Gatot Subroto Kav. 4, Jakarta 12930, Indonesia
Tel: 021-520-2577

KOREA

Yamaha Music Korea Ltd.
8F, 9F, Dongsung Bldg. 158-9 Samsung-Dong, Kangnam-Gu, Seoul, Korea
Tel: 02-3467-3300

MALAYSIA

Yamaha Music (Malaysia) Sdn., Bhd.
No.8, Jalan Perbandaran, Kelana Jaya, 47301
Petaling Jaya, Selangor, Malaysia
Tel: 03-78030900

SINGAPORE

Yamaha Music (Asia) Private Limited
Block 202 Hougang Street 21, #02-00, Singapore 530202, Singapore
Tel: 65-6747-4374

TAIWAN

Yamaha Music & Electronics Taiwan Co.,Ltd.
3F, No.6, Section 2 Nan-Jing East Road, Taipei, Taiwan R.O.C.
Tel: 02-2511-8688

THAILAND

Siam Music Yamaha Co., Ltd.
3, 4, 15 and 16th floor, Siam Motors Building,
891/1 Rama 1 Road, Wangmai, Pathumwan, Bangkok 10330, Thailand
Tel: 02-215-2622

VIETNAM

Yamaha Music Vietnam Company Limited
15th Floor, Nam A Bank Tower, 201-203 Cach Mang Thang Tam St., Ward 4, Dist.3, Ho Chi Minh City, Vietnam
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http://www.yamahaproaudio.com/

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